



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:  
OSB1999-0074

May 10, 1999

Fred Patron  
Federal Highway Administration  
The Equitable Center, Suite 100  
530 Center St. NE  
Salem, Oregon 97301

Re: Biological Opinion for the Eddyville to Cline Hill Highway Project

Dear Mr. Patron:

The National Marine Fisheries Service (NMFS) has enclosed the Biological Opinion (BO) that addresses the Eddyville to Cline Hill highway construction project. Federal Highway Administration (FWHA) is the lead agency and the Oregon Department of Transportation (ODOT) is the designated non-Federal representative. This project went through formal conferencing for Oregon coast coho salmon (*Oncorhynchus kisutch*) that culminated in a conference opinion in March 1998. The project began construction in 1997. When Oregon coast coho were listed as threatened in August 1998, the conference opinion was adopted as the biological opinion. Subsequent to this, a significant change in the project has occurred that has necessitated the reinitiation of formal consultation.

In addition to the road construction activities not yet completed, the action proposes the disposal of approximately 95,000 cubic meters of excess fill that was not considered in the original plans. Three disposal sites have been identified by ODOT. The first (Deluse) property is located on the floodplain for Little Elk Creek, within the highway project limits. The Deluse property can accommodate a maximum of 78,000 cubic meters. The other two sites are away from the creek and could accommodate the remainder of the fill material. The proposed action is the disposal of 78,000 cubic meters of excess material on the Deluse property.

This opinion considers the potential effects of the project on Oregon coast coho salmon. The Oregon coast coho salmon was listed as threatened under the ESA by the NMFS (August 10, 1998, 63 FR 42587). Critical habitat has not been proposed for this species. This opinion constitutes formal consultation for the Oregon coast coho salmon.



If you have any questions regarding this letter, please contact Nancy Munn of my staff at (503) 231-6269.

Sincerely,

A handwritten signature in black ink, appearing to read "William Stelle, Jr.", with a horizontal line underneath.

William Stelle, Jr.  
Regional Administrator

cc: Elton Chang - FHWA  
Pieter Dykman - ODOT  
Rose Owens, ODOT  
Nick Testa - ODOT  
Tim Dodson - ODOT Region 2  
Molly Cary - ODOT Region 2  
Randy Reeve - ODFW

Endangered Species Act - Section 7  
Consultation

Biological Opinion

Eddyville to Cline Hill Highway Project, Lincoln County

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: May 10, 1999

Refer to: OSB1999-0074

## TABLE OF CONTENTS

I. Background .....	1
II. Proposed Actions .....	2
III. Biological Information and Critical Habitat .....	5
IV. Evaluating Proposed Actions .....	6
A. Biological Requirements .....	7
B. Environmental Baseline .....	7
V. Analysis of Effects .....	8
A. Effects of Proposed Actions .....	8
B. Effects on Critical Habitat .....	11
C. Cumulative Effects .....	11
VI. Conclusion .....	11
VIII. Conservation Recommendations .....	12
IX. Reinitiation of Consultation .....	12
X. References .....	13
XI. Incidental Take Statement .....	13
A. Amount or Extent of the Take .....	14
B. Reasonable and Prudent Measures .....	14
C. Terms and Conditions .....	15

Attachment A

General Minimization and Avoidance Measures

## I. Background

A biological assessment (BA) was originally submitted for this project on January 9, 1996 with a finding of “not likely to adversely affect”. NMFS responded that although the effect of the proposed construction project would not result in jeopardy, there was a possibility of take. Therefore, NMFS did not concur with this determination of effect. Subsequently, FHWA/ODOT entered into formal conferencing looking at impacts to the then proposed Oregon coast coho salmon (*Oncorhynchus kisutch*). NMFS issued a conferencing opinion to FHWA/ODOT in March 1997. Since the Endangered Species Act does not have a prohibition against take of proposed species, no Incidental Take Statement was issued. The project went to construction in 1998.

Since that time, two changes have occurred. First, Oregon coast coho salmon were listed as threatened on August 10, 1998 (63 FR 42587). Second, the project now has approximately 95,000 cubic meters of excess fill that was not considered in the original BA and Conference Opinion. FHWA/ODOT proposes to dispose of the excess material at three sites: 1) a property along Little Elk that can accommodate 78,000 cubic of excess fill (Deluse property); 2) an upland site that could hold approximately 18,300 cubic meters of material; and 3) an upland site that could hold about 6,000 cubic meters of material. Because of these changes, FHWA/ODOT requested reinitiation of formal consultation on March 8, 1999.

Recognizing that this project is ongoing, consultation is required on the portion of the project yet to be completed, and is not required on the portion of the project completed before the listing. Consequently, this biological opinion (BO) considers the impacts of placing the fill at the Deluse property, project activities associated with fill placement, and the impacts of the road project yet to be completed. The Incidental Take Statement provided in this BO includes take associated with the actions associated with the project that have yet to be completed.

Federal Highway Administration is the lead agency and ODOT is the designated non-Federal representative for transportation related actions in Oregon that are supported by funds from the FHWA. This BO is based on the information presented in the March 27, 1997 Conference Opinion, the March 8, 1999, letter and attached matrix, and subsequent information provided by ODOT (March 25, 1999). The effects determination was made using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996).

FHWA/ODOT has determined that the Oregon coast coho salmon may occur within the project area.

This BO reflects the results of the consultation process. The consultation process has involved correspondence and communications to obtain additional information. As appropriate, modifications to the proposal to reduce impacts to the indicated species were discussed and enacted. These are discussed under the proposed action below.

The objective of this BO is to determine whether the action to place the fill next to Little Elk Creek is likely to jeopardize the continued existence of Oregon coast coho salmon or destroy or adversely modify critical habitat.

## **II. Proposed Action**

The proposed action is located along the Corvallis - Newport Highway (Highway 20). Highway 20 runs from Corvallis to Newport and serves as a major route linking I-5 to Highway 101. The section currently under construction is in Lincoln County between the towns of Eddyville and Cline Hill between milepoint (MP) 24.55 and MP 29.5. This section of highway generally follows Little Elk Creek, a tributary of the Yaquina River. The project began in 1987, and is replacing a 4.75-mile section of the road, and requires ten new bridges over Little Elk Creek, several retaining walls along the creek, and culvert crossings. It is a multi-year project on a new alignment requiring major earth-moving activities. Once under construction, the contractor determined that the project would have approximately 98,000 cubic meters of surplus fill that was not originally accounted for. The new action proposed and evaluated in this BO would place about 78,000 cubic meters of the surplus fill on the Deluse property located on the northeast side of Little Elk Creek at about MP 26.

Measures to avoid and minimize impacts to aquatic and riparian habitat have been incorporated into the entire project, and are provided in Attachment A.

### **Actions Associated with the Fill Disposal**

To access the property, a temporary bridge would be constructed from the new road on the south side of the creek at the northern edge of the Deluse property. The temporary bridge would fully span the creek, not requiring any in-water work. The ends of the bridge would be located back from the top of the bankline. The bridge would be removed following the placement of the fill. The fill would be placed as shown on Figure 1 of the March 8, 1999, letter. No fill would be placed within 50 feet of the creek. ODFW has placed stakes to mark the limits of fill placement to avoid impacts to the stream. A silt fence has been constructed along the staked line, and no earth-moving equipment would go beyond the staked line.

### **Actions Associated with the Fill Disposal**

This BO must consider actions yet to be completed for the entire road project. The project eliminates a number of sharp curves by realigning portions of the road. Travel lanes and shoulders are being widened. Road realignment activities include construction of:

- S** major earthwork movement to alter topography and build new road;
- S** ten new bridges over Little Elk Creek (these are currently under construction); and
- S** culvert crossings for three unnamed tributaries to Little Elk Creek.

## **Habitat Enhancement**

This action includes habitat enhancement activities along Little Elk Creek within the road construction project limits. These actions are in addition to the enhancement activities previously proposed in the original BA and Conference Opinion. The intention of the enhancement is to offset impacts associated with the disposal of surplus fill. The primary focus would be to use plants to stabilize areas with active erosion, although some in-stream work may be conducted to improve habitat. In-water work would be done within the in-water work period. It is anticipated that these activities will cost close to, but not exceed, \$100,000. The costs include the plantings, monitoring and replacing plants as necessary, control of blackberries, and irrigation where needed. The enhancement areas are shown on the attached Figure 1 and are summarized below (refer to ODOT letter dated March 25, 1999, for more details).

- A. North side of Austin Creek culvert. Plant areas with red cedar.
- B. Along old highway roadbed. Plant coniferous and deciduous trees to re-establish a mixed species canopy.
- C. At fill pile in floodplain of Little Elk Creek. Push fill south as far as possible to reconnect the creek to its floodplain, then plant with mixed trees and shrubs.
- D. Slope north of bridge #8. Conifer planting.
- E. Old highway roadbed. Establish a mixed species canopy.
- F. New highway fill slope south of creek not adequately vegetated. Use conifers and willows to stabilize the bank. Seed the top of the fill slope.
- G. Old cement abutments in creek channel and old highway roadbed. Plant Douglas-fir on the roadbed.
- H. Toe of existing slope without trees. Plant a single row of conifers.
- I. At the Deluse excess fill disposal site. Collect all topsoil and stockpile on-site, and place on top of fill. Plant the site with a mixture of coniferous and deciduous trees and shrubs.

## **Design Features to Minimize and Avoid Impacts**

As appropriate, modifications to the proposal to reduce impacts to the indicated species were discussed and enacted. These features include:

- S** requiring bridges at all stream crossings of Little Elk Creek;
- S** requiring a 20-foot setback between all project structures and Little Elk Creek;
- S** limiting in-water work to the dry season;
- S** planting disturbed areas with native tree species;
- S** acquiring more than 10 acres of land which will be used for fish habitat enhancement structures and floodplain protection;

- S** conducting daily on-site monitoring during construction, including inspection of all erosion controls within 24 hours of one-half an inch of rainfall;
- S** minimizing the amount of fill at the site and looking for upland locations to place the fill;
- S** adding restorative actions at other locations on the project that would benefit riparian habitat; and
- S** conducting yearly monitoring (for five years) of fish habitat structures and riparian plantings.

### III. Biological Information and Critical Habitat

The listing status, biological information, and critical habitat elements or potential critical habitat for the indicated species are described in Table 1.

Table 1. References to Federal Register Notices containing additional information concerning listing status, biological information, and critical habitat designations for listed and proposed species considered in this biological opinion.

Species (Biological References)	Listing Status (Reference)	Critical Habitat (Reference)
Oregon coast coho salmon (Weitkamp et al. 1995; Sandercock 1991)	Listed Threatened (63 FR 42587, 10 August 1999)	Not proposed

Coho salmon from the Oregon coast return to freshwater in October, with spawning in November and December. They generally spawn at age 3, spending just over a year in freshwater and a year and a half in the ocean (Sandercock 1991). Oregon coast coho spawner abundance and habitat potential have declined substantially since the early 1900s, suggesting that current abundance may be less than 5% of that in the early part of this century (Weitkamp et al. 1995). Recent spawner escapement estimates have shown little trend, but this has been during a period of substantial reduction in ocean harvest rate, suggesting that total (pre-harvest) run size has been declining substantially. Recent recruits-per-spawner ratios show a continuous decline up to the present, with the ratios below replacement. Degradation of freshwater habitat has played a significant role in the declines.

### IV. Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical



habitat. This analysis involves the initial steps of (1) defining the biological requirements and current status of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for rearing and spawning of the listed salmon under the existing environmental baseline.

## **A. *Biological Requirements***

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination (see Table 1 for references).

The relevant biological requirements are those necessary for the listed species to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environmental.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing, spawning, and migration. The current status of the Oregon coast coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened (see Table 1 for references). Freshwater habitat degradation has been a significant factor in the decline of this species.

## ***B. Environmental Baseline***

The biological requirements of the Oregon Coast coho salmon are currently not being met under the environmental baseline. As stated above, degradation of freshwater habitat is a significant factor in their decline. Their status is such that there must be a significant improvement in the environmental conditions they experience including the condition of any designated critical habitat (over those currently available under the environmental baseline). Any further degradation of these conditions would have a significant impact due to the amount of risk the listed salmon presently face under the environmental baseline.

The current range-wide status of the identified ESU is referenced in Table 1. The identified actions will occur throughout some of the range of the Oregon coast coho. The defined action area is the area that is directly and indirectly affected. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activities include the immediate watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this opinion, the action area is defined as Little Elk Creek from the beginning to the end of the project (see Figure 1).

Little Elk Creek is a tributary of the Yaquina River. The Yaquina River, which flows into the Pacific Ocean, lies within the Oregon Coast Range Province. Agricultural activities occur along a substantial length of Little Elk Creek. Much of the land in the watershed is privately-owned forest land. Little Elk Creek supports fall chinook salmon, coho salmon, winter steelhead and sea-run cutthroat trout.

The environmental baseline for the Little Elk Creek basin is “at risk” or “not properly functioning” for at least 12 of the 17 environmental indicators considered. Turbidity is a problem, and there is a lack of large woody debris and off-channel habitat in the basin.

Based on the best available information on the current status of Oregon coast coho range-wide (as referenced in Table 1); the population status, trends, and genetics; and the poor environmental baseline conditions within the action area, NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. Recent data for coho in the Yaquina basin indicate that coho numbers remain depressed. Habitat degradation, passage problems, harvest, and hatchery practices contribute to these declines. Major habitat problems are primarily related to

blockages, forest practices, urbanization, and farming practices. These exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions.. Improvement in habitat conditions is needed to meet the biological requirements for survival and recovery of these species. The following habitat indicators are either at risk or not properly functioning within the action area: temperature, sediment, physical barriers, large woody debris, pool quality, off-channel habitat, streambank condition, floodplain connectivity, disturbance history, and refugia. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of Oregon coast coho salmon.

## **V. Analysis of Effects**

### **A. Effects of Proposed Actions**

The effects determination in this opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of actions are expressed in terms of the expected effect - restore, maintain, or degrade - on aquatic habitat factors in the project area.

For each individual action covered in this opinion, the effects on aquatic habitat factors and to species considered in this opinion can be limited by utilizing construction methods and approaches that are intended to minimize impacts. The effects of the proposed project have been evaluated based on the application of the ODOT's *General Minimization and Avoidance Measures* which have been incorporated into the project (Attachment A). Of particular importance are restricting the extent and amount of fill at the Deluse property and other riparian areas, and the effect of the type and locations of the enhancement activities on streambank condition and in-stream habitat indicators over the long term.

For each of the project actions, the NMFS expects that the effects of the project actions will tend to maintain or restore each of the habitat elements over the long-term, greater than one year. In the short term, expected impacts include temporary disturbance to stream banks, loss of some riparian habitat (shrubs only) for the temporary work bridge, and a temporary increase in turbidity and sediment input. There is also a slightly increased risk of a fuel oil spill into the action area during construction.

In the long term, this work would not be expected to have direct impact to the indicated species or have long term detrimental affects on the stream bed or banks. Impacts will be minimized by incorporating indicated conservation measures, and the creation and enhancement of in-stream and riparian habitat. Habitat enhancement projects will probably reduce fine sediment in the long term. The potential effects from the sum total of proposed actions are expected to restore or maintain properly functioning stream conditions within the action area.

Potential adverse effects of the project and mitigating factors are discussed below.

1. River crossings could encroach on the stream and riparian area. However, the project design calls for ten bridges with 20-foot setbacks from the stream banks. This setback feature avoids entry into the river. The construction area will be revegetated using native species.
2. Increased access to the river could result in increased angling. However, the ODFW only permits angling for resident fish species in this area. Additionally, the new road will actually decrease the number of access roads to the river. There will be no pullouts constructed.
3. Increased sedimentation could result from (1) earth-moving activities, (2) placement of temporary support beams (“false-work”) for construction of the bridges across Little Elk Creek, (3) placement of large woody debris for fish habitat, and (4) construction of off-channel alcoves for fish. In-water work would be done within the ODFW work window with erosion control measures designed to prevent sediments from entering waterways. Any sediment increase would be short-term. Expected benefits from the fish habitat enhancement include decreased fine sediment over the long term. All disturbed ground will be revegetated using native species including Douglas fir, hemlock, and cedar.
4. The culvert crossings proposed for the three unnamed tributaries to Little Elk Creek will not be open-bottom culverts and could pose fish passage barriers. Sampling by ODOT and ODFW indicates that anadromous fish do not use these tributaries.
5. Erosion and landsliding could be caused by cuts needed for road relocation. Extensive geotechnical studies conducted on underlying soil stability indicate that these potential adverse effects have an extremely low probability of occurring (Nick Testa, ODOT biologist, personal communication, 16 January 1997).
6. A spill of hazardous materials at fuel storage sites and staging areas or during transport of fuel oil or asphalt could occur. ODOT has standard spill prevention, control and response plans in place to minimize the risk (see Attachment A).
7. Construction of the new road would increase the road density of the Little Elk Creek watershed. This increase is minimal: 4.75 miles will replace 4 miles, and 2 miles of the old road will be left to provide access to residences. The improved stability of the proposed road outweighs the impact of the increased road miles.
8. Moving the road closer to the river could potentially decrease floodplain connectivity and could increase hydrologic scour, necessitating in-water repairs. The current road is undercut in several places by the creek. The new road, while closer to the creek in some places, would always be at least 20 feet away from the stream banks. The new road will be built to current engineering standards. These design features make hydrologic scour of the new road highly unlikely.

9. A portion of the fill would be located within 300 feet of Little Elk Creek. The fill disposal site is currently pasture land and devoid of shrubs and trees. Topsoil would be removed before the fill is placed on the site, and replaced before plantings. Trees and shrubs would be planted on the site to restore the site to pre-disturbance conditions over the long-term. No fill would be placed closer than 50 feet to the stream, and erosion control measures will be used to ensure that no sediment reaches the stream during fill placement. ODOT is purchasing this property, and it will no longer be used for grazing or other agricultural practices. This will result in a net benefit for the basin.
10. The temporary work bridge used to access the fill site will be full span and require no in-water work. Some shrubs will be impacted, but no trees will be removed. Following fill placement, the bridge would be removed, and riparian vegetation replanted. The bridge may cause small increase in sediment loading to the creek, but these would be minimized through stringent erosion control measures. An ODOT biologist will visit the site following bridge placement to ensure that erosion control measures are adequate.
11. Actions at the eight enhancement sites may result in temporary turbidity problems, but these should be minor and short term. These activities will result in improved riparian conditions, and contribute to future large woody debris recruitment.

## ***B. Effects on Critical Habitat***

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has not been designated for the Oregon coast coho salmon. For each of the proposed actions, NMFS expects that the effects will tend to maintain or restore properly functioning conditions in the watershed under current baseline conditions over the long term. In the short term temporary increases of sediments and turbidity are expected. In the long term, no loss of stream or riparian habitat will occur, and riparian habitat would be improved. NMFS does not expect that these actions will diminish the value of habitat for the survival of the Oregon coast coho salmon.

## ***C. Cumulative Effects***

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." For the purposes of this analysis, the general action area is the watersheds containing the project. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes.

A wide variety of actions occur within the watershed defined within the BO. NMFS is not aware of any significant change in such non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Agricultural activities occur along a substantial length of Little Elk Creek. To date, The Oregon Department of Agriculture has not implemented a basin plan regarding these activities. Much of the land in the watershed is privately-owned forest land, which is subject to the Oregon Forest Practices Act.

## **VI. Conclusion**

NMFS has determined based on the available information, that the proposed actions are expected to restore or maintain properly functioning stream conditions within the action area. Consequently, the proposed actions covered in this opinion are not likely to jeopardize the continued existence of Oregon coast coho salmon. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts. These effects will be balanced in the long-term through the proposed enhancement activities. Direct mortality may occur during the in-water work associated with the bridges or culvert work.

## **VIII. Conservation Recommendations**

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information.

FHWA/ODOT has adopted substantial measures to minimize and avoid the effects of the proposed project (included as terms and conditions of the incidental take statement). The following conservation measures are designed to assist FHWA/ODOT in implementing these measures:

1. Should monitoring indicate that excessive sediment is delivered to waterways (e.g., a 10 percent or greater increase in turbidity), ODOT shall notify NMFS. NMFS may request reinitiation of consultation.
2. ODOT shall work with ODFW to limit the extent of disturbance in riparian areas.

3. In order for NMFS to be kept informed of actions minimizing or avoiding adverse effects, or those that benefit listed species or their habitat, NMFS requests notification of the implementation of enhancement actions, and notification of when fill disposal is complete.

## **IX. Reinitiation of Consultation**

Consultation must be reinitiated if: the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, ODOT must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

## **X. References**

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion.

DEQ 1996. 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1996.  
([www.deq.state.or.us/wq/303dlist/303dpage.htm](http://www.deq.state.or.us/wq/303dlist/303dpage.htm)).

DEQ 1998. Draft 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1998.  
([www.deq.state.or.us/wq/303dlist/303dpage.htm](http://www.deq.state.or.us/wq/303dlist/303dpage.htm)).

DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

ODFW 1996. Database -- Salmonid Distribution and Habitat Utilization, Arc/Info GIS coverages. Portland, Or. 1996. ([rainbow.dfw.state.or.us/ftp/](http://rainbow.dfw.state.or.us/ftp/)).

Sandercock, F.K. 1991. Life history of coho salmon (*Oncorhynchus kisutch*). In C. Groot and L. Margolis (editors), Pacific salmon life histories, p. 396-445. Univ. British Columbia Press, Vancouver.

Weitkamp, L.A., T.C. Wainwright, G.J. Brant, G.B. Miller, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status Review of Coho Salmon from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NFWWC-24, 258 p.

## **XI. Incidental Take Statement**

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

### **A. Amount or Extent of the Take**

The NMFS anticipates that there is more than a negligible likelihood of incidental take of Oregon coast coho salmon because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Biological Opinion and the Conference Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the Conference Opinion and letter from FHWA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Biological Opinion. The extent of the take is limited to the project limits as shown on Figure 1.



## ***B. Reasonable and Prudent Measures***

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species.

1. Actions must be taken to minimize the amount and extent of incidental take during in-water work.
2. Effective erosion control and revegetation actions be taken on site to minimize fine sediment input in the stream over the long term.
3. Hazardous materials must be handled in such a way that minimizes the risk to aquatic and riparian habitats.
4. The extent of riparian impacts must be minimized, and plantings must occur that mitigate for the lost function provided by the trees and shrubs removed by the construction.
5. All plantings and mitigation sites must be monitored and meet criteria as described below in the terms and conditions.

## ***C. Terms and Conditions***

In order to be exempt from the prohibitions of section 9 of the ESA, ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. An ODOT biologist will visit the site following the installation of the temporary work bridge at the Deluse property to ensure that erosion control measures are adequate.
2. ODOT, shall stake the limits of the fill on the Deluse property prior to fill placement based on recommendations from ODFW..
3. The site will be inspected one year after the completion of the action to assess the results of erosion control measures and restoration of the riparian habitat, and a report documenting the conditions will be prepared and provided to NMFS (Oregon Branch) for review.
4. Based on the results of the assessment and a determination that erosion control and/or revegetation of the riparian habitat are not effective as compared to undisturbed adjacent areas, additional actions will be taken as necessary and in agreement with NMFS to rectify the situation.

## Attachment A

### General Minimization and Avoidance Measures

#### In-water Work

- Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. ODOT designs will ensure passage of fish as per ORS 498.268 and ORS 509.605.
- C All work within the active channel of all anadromous fish-bearing systems, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within ODFW's in-water work period. This in-water work period varies by system.<sup>1</sup> Any NMFS approved extensions of the in-water work period will first be approved by and coordinated with ODFW.
- C During ODOT project design, ODOT will work to minimize the amount of riprap used. In unshaded areas above the 5-year floodplain which are not scour-critical, ODOT will attempt to use biological bank control, or to backfill with native soil and plant with willow and other riparian species. This installation will increase riparian shading and cover. Where riprap is necessary, only clean, non-erodible, upland angular rock of sufficient size for long-term bank armoring will be employed.
- C Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration. Waterway bank slopes will be left no steeper than 1:2.
- C In areas with riprap installation, larger riprap (class 350 metric minimum) will be used preferentially within the 2-year floodplain of systems, where this riprap would come into contact with actively flowing water, and where using larger riprap would not constrict the size of the active channel (larger rock sizes create larger interstitial spaces for juvenile salmonids). Placement will be performed "in the dry" as much as possible, and from the top of the bank where possible. Riprap areas will be planted with willow stakes (and other riparian shrubs/tress) to increase shading and cover within the 10-year floodplain, where appropriate. Willow stakings will be of a species appropriate for the physiographic province and will be planted at an approximate density of 2000/ ha (generally).

#### Erosion Control

For all projects with the potential to contribute sediment to aquatic resources, an Erosion Control Plan

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<sup>1</sup>Many non-estuarine systems have an in-water work period during the driest portions of the year.

(ECP) will be prepared by ODOT's Erosion Control Team and implemented by the Contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures will be sufficient to ensure that turbidity does not exceed 10% above ambient (background) conditions.

C Erosion Control measures shall include (but not be limited to) the following:

- , Sediment detention measures such as placement of weed-free straw bales and silt fences at the bottom of newly-constructed slopes.
- , Construction of sediment settling basins where appropriate. Berms shall be constructed where appropriate, to divert runoff into these basins.
- , temporary plastic sheeting for immediate protection of open areas (where seeding/ mulching are not appropriate).
- , Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes.
- , Sills or barriers may be placed in drainage ditches along cut slopes and on steep grades to trap sediment and prevent scouring of the ditches. The barriers will be constructed from rock and straw bales.
- , Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.

C Effective erosion control measures shall be in-place at all times during the contract. Construction within the 5-year floodplain will not begin until all temporary erosion controls (e.g., straw bales, silt fences) are in-place, downslope of project activities within the riparian area. Erosion control structures will be maintained throughout the life of the contract.

C All temporarily-exposed areas will be seeded and mulched. Erosion control seeding and mulching, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within 7 days of exposure within 30 meters of waterways, wetlands or other sensitive areas, and in all areas during the wet season (after October 1). All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.

C All erosion control devices will be inspected during construction to ensure that they are working adequately. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites. Work crews will be mobilized to make

immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional controls will be installed as necessary.

- C If soil erosion and sediment resulting from construction activities is not effectively controlled, the Engineer will limit the amount of disturbed area to that which can be adequately controlled.
- C Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- C Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area. Silt fences or other detention methods will be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.
- C A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.
- C All equipment that is used for instream work will be cleaned prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.
- C On cut slopes steeper than 1:2 a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the rate.
- C Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic resources. Conservation of topsoil (removal, storage and reuse) will be employed.
- C Measures will be taken to prevent construction debris from falling into any aquatic resource. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.

#### Hazardous Materials

- C ODOT actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and DEQ's provisions for maintenance of water quality standards not to be exceeded within the Rogue Basin (OAR Chapter 340, Division 41). Toxic substances shall not be introduced above natural background levels in waters of the state in amounts which may be harmful to aquatic life. Any turbidity caused by this project shall not exceed DEQ water quality standards.

- C The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the ODOT Engineer to ensure compliance with this PCP. Sediment releases greater than 10% above background levels will not be acceptable. No toxicants, including green concrete will be allowed to enter any aquatic resource.
- C No toxicant (including petroleum products) will be stored or transferred within 50 m (165 feet) of any waterbody. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 50 m away from any waterbody.
- C Hazmat booms will be installed in all aquatic systems where:
- a) Significant in-water work will occur, or where significant work occurs within the 5-year floodplain of the system, or where sediment/toxicant spills are possible.
  - b) The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient ).
  - c) A significant aquatic resource occurs downstream or within the project area.<sup>2</sup>
- C Hazmat booms will be maintained on-site in locations where "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
- C No surface application of nitrogen fertilizer will be used within 15.2 meters (50 feet) of any aquatic resource.

#### Riparian issues

- C Where appropriate, boundaries of the clearing limits will be flagged by the project inspector of ODOT. Ground will not be disturbed beyond the flagged boundary.
- C Alteration of native vegetation will be minimized. Where possible, native vegetation will be clipped by hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. Himalayan blackberry)
- C All exposed areas greater than 100 m<sup>2</sup> within the riparian corridor will have a replanting plan which is appropriate for the local overstory/understory plant community. The replanting plan will emphasize endemic riparian species.

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<sup>2</sup>Significant aquatic resources may include estuaries, spawning areas, or rearing areas.

- C Riparian overstory vegetation removed will have a replacement rate of 1.5:1. Replacement will occur within the project vicinity where possible and within the watershed at a minimum.
- C ODOT will require a contract grow period for all riparian mitigation plantings. In extremely unstable or unproductive areas, ODOT may release the Contractor from the contract grow period and develop a larger replanting area to compensate for this.

#### Monitoring

- C All significant riparian replant areas, streambank and channel restoration/enhancement actions, and off-channel mitigation sites will be monitored to insure the following:
  - a) Finished grade slopes and elevations will perform the appropriate role for which they were designed.
  - b) Log and rock structures are placed appropriately and adequately secured.
  - c) Plantings are performed correctly and have an adequate success rate.
- C Mitigation site monitoring will ensure that mitigation commitments have an adequate success rate to replace the functions they were designed to replace. ODOT Biology staff will produce post-construction and biannual reports on success of mitigation sites, available on request.
- C Failed plantings and structures will be replaced, if replacement would potentially succeed. In cases of failed design, mitigation will generally be sought on another project, in a more appropriate location.
- C ODOT will require a contract grow period for all riparian mitigation plantings. In extremely unstable or unproductive areas, ODOT may release the contractor from the contract grow period and develop a larger replanting area to compensate for this.